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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,188	12/27/2000	Tadayoshi Iijima	P107424-00019	2973

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RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER

BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/748,188		IIJIMA, TADAYOSHI	
	Examiner		Art Unit	
	Kevin M Bernatz		1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Request for Continued Examination

2. The Request for Continued Examination (RCE) under 37 CFR 1.53 (d) filed on January 3, 2005 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The term "fine" in claim 8 is a relative term which renders the claim indefinite.

The term "fine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner notes that what one person may consider as "fine" is not necessarily the same that another person would consider as "fine". For purposes of evaluating the prior art, the Examiner has taken that any particle size less than or equal to 1 μm is sufficient to meet the limitation "fine" (*applicants' specification, page 13*). Finally, the Examiner recommends amending claim

8 to positively recite that the particles are "less than or equal to 1 μm in size" or removing the word "fine" from the claims, both of which would be sufficient to overcome the above rejection predicated on 35 U.S.C. 112, 2nd Paragraph.

Claim Rejections - 35 USC § 103

5. Claims 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu et al. (U.S. Patent No. 5,411,792) in view of Sumitomo Cement KK (JP 06-087631-A). See provided Derwent Abstract Translation and Machine Translation of JP '631 A.

Regarding claim 8, Yukinobu et al. disclose a transparent conductive film (*Title*) comprising a conductive film (i.e. applicants' "compressed layer") on a support (*col. 2, lines 21 – 53 and examples*), said compressed layer having conductive fine particles (*col. 2, lines 26 – 28*) and a resin (*col. 3, lines 54 – 59*), wherein said compressed layer further comprises an impregnated transparent substance (*col. 3, lines 54 – 59; col. 4, lines 18 – 35; and examples*).

Regarding the limitation(s) "said compressed layer formed by compressing the ... of at least 44N/mm²", the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations. In the instant

case, the “compressed film” will exhibit a *structure* resulting from compression being applied to the film. The exact pressure utilized is not deemed to produce an unobvious difference in structure and since Yukinobu et al. disclose using compressed layers, the structure resulting from the claimed process limitation is deemed to necessarily be met by the Yukinobu et al. invention.

Yukinobu et al. fail to disclose the amount of resin relative to the volume of the conductive fine particles in the compressed layer, though Yukinobu et al. does recognize that the amount of resin is a results effective variable used to control the overall conductivity of the film versus the haze and transparency of the film (*col. 1, lines 29 – 59*).

However, Sumitomo Cement KK teaches that when forming double layer transparent conductive films (*Paragraph 0001*), one should use a conductive layer comprising 62.5 to 100 wt% of conductive particles (*Derwent Abstract and Paragraphs 0007 – 0009*) in order to insure a good combination of conductivity and mechanical properties (*Paragraphs 0007 – 0013 and 0027*). Since Yukinobu et al. teach compressed layer comprising resin and conductive particles, it follows that the combined teachings would result in 0 – 37.5 wt% resin, thereby overlapping applicants’ claimed range of 0.03 – 9.3 volume percent. While the Examiner acknowledges the difference between weight percent and volume percent, the Examiner deems that there is reasonable basis to believe that 0 wt% is equal to 0 vol% and that 37.5 wt% is equal to or greater than 0.03 vol%, hence resulting in overlap between the claimed ranges. Finally, based on Examiner Uhler’s “back-of-the-envelope” estimate on page 13 of the

Examiner's Answer mailed November 2, 2004, the Examiner notes that 37.5 wt% resin would be ~80 vol% based on a difference in densities of 7:1 (assuming a 100 g basis).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Yukinobu et al. to use an amount of resin meeting applicants' claimed limitations as taught by Sumitomo Cement KK in order to insure a good combination of conductivity and mechanical properties, as desired in the Yukinobu et al. invention.

Regarding claim 2, the limitation "is formed by applying ... before dispersion" is process limitations in a product claim and is not deemed to result in an unobvious *structure* when compared to the process used to make the Yukinobu et al. *structure*. Applicants are invited to provide evidence that the claimed process results in an unobvious difference when compared to the Yukinobu et al. process of making the transparent conductive films.

Regarding claim 3, Yukinobu et al. disclose supports made of plastics (i.e. "resin") (*col. 3, lines 54 – 59 and examples*).

Response to Arguments

6. The rejection of claims 2, 3 and 8 under 35 U.S.C § 103(a) – Yukinobu et al.

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Without agreeing or disagreeing with applicants' arguments regarding the rejections predicated solely on Yukinobu et al., the Examiner has relied

upon the teachings in Sumitomo Cement KK above to clarify the Office's position regarding the amount of resin contained in the compressed layer.

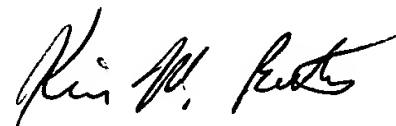
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB
March 1, 2005


Kevin M. Bernatz, PhD
Primary Examiner